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<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) 06618-590001	
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Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.  This request is being filed with a notice of appeal.  The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
I am the <input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/06) <input checked="" type="checkbox"/> attorney or agent of record. 32,030 Registration number _____ <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____		BY <b>JOHN F. CONROY</b> <b>REG. NO. 45,485</b> Signature <u>Scott C. Harris</u> Typed or printed name _____ 858/678-5070 Telephone number _____ August 31, 2005 Date _____	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.8. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Attorney's Docket No.: 06618-590001/CIT- 3165

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Aleksey E. Bolotnikov et al. Art Unit: 2815  
Serial No.: 09/933,349 Examiner: Jerome  
Filed : February 23, 2001 Jackson, Jr.  
Title : INDIUM FEATURES ON MULTI-CONTACT CHIPS

VIA FACSIMILE**Mail Stop AF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pursuant to the Pre-Appeal Brief Conference Program described in the Official Gazette Notices of July 12, 2005, Applicant respectfully requests panel review of the rejections of claims 1-5, 9, and 10 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,092,036 to Hu et al (hereinafter "Hu") and the rejections of claims 1-5, 9, and 10 under 35 U.S.C. § 103(a) as obvious over Hu.

Claim 1, which is illustrative, relates to a solid-state detector that includes a pixilated semiconductor detector having plurality of individual indium bumps arrayed on a surface of the detector. The indium bumps are in electrical contact with the surface and are situated in defined locations on the surface. The indium bumps have a height of between 15 to 100  $\mu\text{m}$ .

## CERTIFICATE OF TRANSMISSION BY FACSIMILE

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August 31, 2005

Date of Transmission

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Carroll Allman

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The rejections of claim 1 are apparently based on two different premises. The first premise is that Hu's IR detectors include indium bumps that have a height of between 15 to 100  $\mu\text{m}$ .

Applicant respectfully disagrees. Hu's IR detectors are made by sandwiching an interconnect pad 30 between a readout chip 44 and a detector chip 42. See Hu, col. 5, line 37-50. In particular, indium columns in interconnect pad 30 are first cold welded to indium bumps 46 on readout chip 44 and then cold welded to indium bumps 50 on detector chip 42.

The indium columns in interconnect pad 30 are formed in metal tubes that traverse a high performance polymer film. See Hu, FIG. 2. The metal tubes are completely filled with molten indium by capillary action. See Hu, col. 5, line 33-36. The metal tubes protrude 20  $\mu\text{m}$  from each side of the polymer film. See Hu, col. 2, line 23-25. The polymer film is itself 75  $\mu\text{m}$  thick. See Hu, col. 2, line 21-22.

The indium columns in interconnect pad 30 are therefore at least 115 (i.e.,  $75 + 20 + 20$ )  $\mu\text{m}$  in height before cold welding to either of indium readout chip bumps 46 and indium detector chip bumps 50.

The advisory action mailed August 12, 2005 contends that the indium columns in Hu's detector compress, presumably during cold-welding when pressure is applied. However, Hu does not describe any permanent compression of his indium columns occurs during the cold-welding process. Indeed, during the first cold-welding to indium readout chip bumps 46, Hu's indium columns are contained in the supporting metal tubes that traverse the high

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performance polymer film. See Hu, col. 5, line 37-50. Also, no compression or other deformation of Hu's indium columns is illustrated in FIGS. 5, 7, or 8, although deformation of indium readout chip bumps 46 is apparent from those same figures. This statement is pure conjecture - not supported by Hu's disclosure.

Further, even if some compression of Hu's 115  $\mu\text{m}$  tall indium columns were to occur (which Applicant does not concede), the rejection neglects that the final indium spacing between Hu's readout chip 44 and detector chip 42 is the sum of the final height of Hu's indium columns, the final height of indium readout chip bumps 46, and the final height indium detector chip bumps 50. Hu neither describes nor suggests that this combined height is between 15 to 100  $\mu\text{m}$ , especially given that one component (i.e., Hu's indium columns) has an initial height of 115  $\mu\text{m}$ .

Therefore, there is no suggestion in Hu of IR detectors which include indium bumps that have a height of between 15 to 100  $\mu\text{m}$ .

The second premise for rejection of claim 1 is that indium bumps that are larger than 100  $\mu\text{m}$  are more desirable than indium bumps that are smaller than 100  $\mu\text{m}$ . On the basis of this alleged superiority of larger indium bumps, bumps that are smaller than 100  $\mu\text{m}$  are allegedly not patentable.

Even if it is true that larger indium bumps are more desirable than smaller indium bumps in every application (which applicant does not concede), this contention neglects the standard of non-obviousness that has been applied since *Graham*

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in 1966. In particular, "subjective feelings" regarding the desirability of an invention are largely irrelevant as to whether inventions are patentable. Rather, patentability is to be determined primarily based on the scope and content of the prior art and on the level of skill in the art. *Graham et al. v. John Deere Co. of Kansas City et al.*, 383 U.S. 1 (1966).

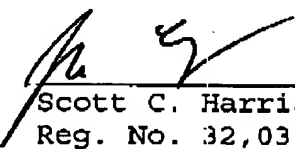
The scope and content of Hu neither describes nor suggests the claimed invention. Further, there is no reason to believe that one of ordinary skill would be able to modify Hu to arrive at the claimed subject matter. Accordingly, any rejection under 35 U.S.C. § 102 or 35 U.S.C. § 103(a) that relies exclusively on Hu is improper and should be withdrawn.

From the Official Gazette Notice of July 12, 2005, Applicant understands that a one month time period for filing an appeal brief will be available from the mailing date of an unfavorable decision on this request.

Applicant asks that all claims be allowed. A Notice of Appeal is being filed concurrently with this Request. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: August 31, 2005

  
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